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EMPLOYABILITY PROGRAM FOR DOMESTIC VIOLENCE VICTIMS LIVING IN LONG-TERM SHELTERS

A FEASIBILITY STUDY FOR A SOCIAL IMPACT BOND

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ABSTRACT

Domestic violence (DV) is a globalized problem with particularly relevant proportions in Portugal, where victims suffer numerous consequences from this trauma, including a high unemployment rate upon their stay in long-term shelters. The present thesis is integrated in the SIB Research Program from Maze, and evaluates the feasibility of using a social impact bond mechanism to finance employability training for DV victims that includes English classes and a 14-weeks Bootcamp for coding. The main findings from this study result from a value-for-money case and suggest that a social impact bond is a suitable funding mechanism to finance this new intervention model.

Key words: Social Impact Bond, Feasibility Study, Domestic Violence, Coding Bootcamp

INDEX

1 Methodology

The development of this thesis was integrated in the Social Impact Bond Research Program, established by Maze Impact. The purpose of the thesis was to develop a feasibility study to understand whether an employability program that aims to train domestic violence victim living in long-term shelters, in Coding and English skills, managed with the support of Associação de Apoio à Vítima (APAV), Academia de Código and Speak, gathers the necessary features to be financed by a Social Impact Bond (SIB).

Prior to implementing the SIB, a feasibility study is required in order to assess whether this is the appropriate model to finance and solve the underlying problem being examined. In order to conduct such a study, firstly, it's important to define the social problem and analyze its root causes, as well as the target population; secondly, one has to understand what are the objectives of the project and who are the most suitable service providers to address this problem; thirdly is the creation of the value-for-money case, where the cost estimation is undertaken and the pricing strategy is defined. Only after taking these steps, can a conclusion be reached regarding the feasibility of using the SIB as the right financial mechanism to fund the project.

In order to complete this feasibility analysis, this study firstly relies on text articles from online publications as an information source to better understand the paradigm of domestic violence, particularly in the Portuguese context, as well as the consequences of the lack of employment opportunities among Domestic Violence victims, which is the focal problem the Social Impact Bond aims to tackle.

The partnerships with APAV, Academia de Código and Speak were crucial to design the intervention model, as they provided valuable data and insights on the current intervention model, the socio-economic profile of the target population and the characteristics of the new intervention model. The author also relied on evidence provided by Niklas Ruf

from Benckiser Stiftung to benchmark the intervention model against a similar SIB conducted in Austria.

Finally, the author was also accompanied throughout the semester by a close mentoring relationship with the thesis supervisor, consisting on several training modules, including excel modelling, which resulted in a better understanding on how to build a strong SIB business case.

2 Understanding the social problem

In May 2011, the council of member states of the European Union signed the Istanbul Convention, a European treaty designed to prevent and combat violence against women and domestic violence. The need for this gesture arose from the insights gathered by the EU's Fundamental Rights Agency concluding that 1 in every 3 women in Europe have experienced sexual or physical violence and that in 2013, 3.300 women were killed as a result of domestic violence incidents across the EU.

Violence against women is an epidemic that can take many forms, ranging from Intimate Partner Violence (IPV), more commonly referred to as Domestic Violence (DV), sexual abuse, genital mutilation, among others. For the purpose of this study, the focus will be on Domestic Violence, which according to the UN encompasses behavior conducted by a current or former partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological and emotional abuse. (World Health Organization data)

In 2017, there was a reported number of domestic violence incidents in Portugal of 22.599, resulting in 18 deaths, according to the annual Internal Security Report (RASI) developed by the Government. This accounts for about 3% of Portuguese women and it represents only a fraction of the actual victims given that UMAR, União das Mulheres

Alternativas e Respostas, states that only about 10% of victims of DV seek any type of institutional support.

The criminalization of domestic violence in Portugal is a fairly recent phenomenon, in the sense that it was only after the fall of Estado Novo in 1974, which was centered in traditional family values, that the new Constitution of 1975 openly defended, with Article 13th, the protection of women within their household (Cardoso, 2012). Due to the recent nature of the criminalization of domestic violence, the continuous effort to respond to this issue has been provided by the third sector, which has been engaging in activities to raise awareness, prevention, emergency response and counseling of the victims.

Hence, to combat this social problem, a number of stakeholders have been mobilized and several frameworks of response have established: NGOs are a key player and have a determinant role in the response provided on the side of the social sector. Other important stakeholders include police, health care providers, social welfare officers, the general public and the national government. A typical response to a domestic violence incident includes a formal complain to the police, and consequent judicial procedures that include other public-sector institutions, namely courts; the involvement of the health care system in the case of sexual/physical abuse; and counseling provided by an NGO, who may also manage a shelter where a victim can move to, for housing and security reasons.

According to this intervention scheme, the State heavily relies on social organizations to respond to this widespread issue. However, the lack of governmental funding on the side of the public sector to reward the success of the third sector has reduced incentives for innovation on the side of NGOs. In response to this gap, if the right funding mechanism is set into place, a favorable framework for continuous improvement on tackling this issue can be implemented and there is an interesting opportunity to analyze the use of a Social Impact

Bond mechanism due to the existence of potential governmental savings, measurable outcome metrics and opportunity to bring innovation to the field.

2.1 Demographic Outlook

Rendering the RASI report from the Ministry of Internal Affairs (MAI, 2017), 53% of domestic violence occurrences take place in marriages and 80% of victims are female. The average age of victims is 42 years: 31% are employed, 16% are unemployed, and there is a lack of information regarding the rest. The geographic distribution of the crimes shows a focus in Lisbon (20,7%), Porto (14,6%), Faro (10,6%) and Setúbal (7,1%) (APAV, 2017). If these victims are allocated to shelters for protection reasons and due to lack of housing alternatives, these shelters will be outside their area of residence.

The target population of the SIB will be the residents of the shelters, where the demographic outlook is slightly different: the majority of victims are between 30-39 years of age, they mostly have a 6th grader level education, and are generally unemployed. The major sources of income for women living in these shelters are the social integration subsidy (RSI), the state family allowance, and the unemployment subsidy (Guerreiro, 2015).

This demographic outlook outlines the challenges faced by domestic violence victims, particularly the ones living in shelters: the fragile situation they face is aggravated by the low educational attainment and lack of professional experiences that contribute to the existence of much precarious labor and a high unemployment rate among victims. Providing a solution to this problem is a crucial step in alleviating the fragile situation the DV victims face, minimizing the consequences of this social issue.

2.2 Consequences

2.2.1 Individual Level

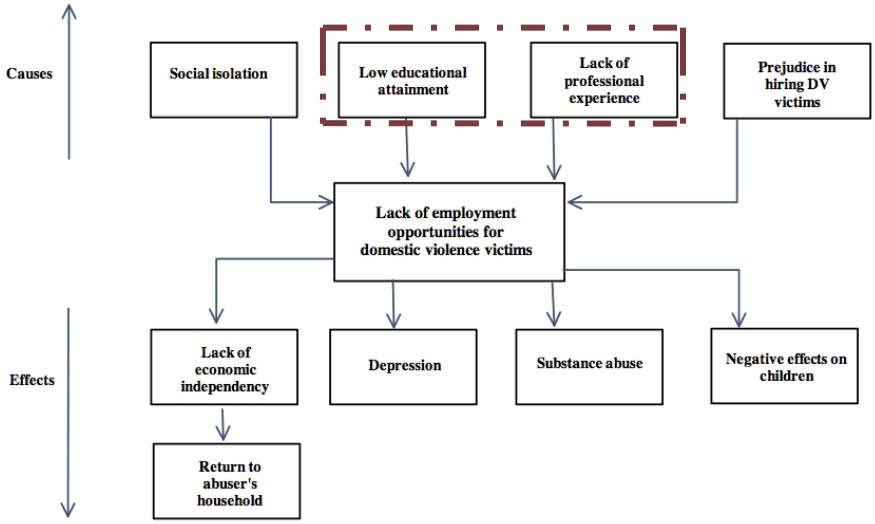

Figure 1-Lack of employment for DV victim's problem tree

The social isolation that often characterizes the condition the victims suffer under the abuser's scope triggers a lack of professional experience, given that many women are kept from working by their abusive partners, and consequently have little professional experience, which is necessary to find a suitable job. Adding to this cause, low educational attainment of victims (Guerreiro, 2015), as well as prejudice by employers in hiring victims of these crimes, are two contributing factors underlying the low employment rate of DV victims.

The consequences of this lack of employment range from mental health issues, such as depression and anxiety, to substance abuse and negative effects on the children, who suffer from the economic constraints of this condition, as well as instability from the overall situation, (Lloyd, 1997).

The financial dependency of victims on the aggressors resulting from the lack of employment opportunities prevents them from standing on their own, and often determines their return to the abusive household (Ellison, 2007). This situation is aggravated, in Portugal, due to the fact that the risk of poverty for women is higher than it is for men, with women being the main recipient of RSI subsidies and earning on average 16,9% less than their male

peers (MTSS/GEP, 2015).

When DV victims do not have a viable housing alternative that allows them to be safe, seeking help means moving to an emergency shelter where there is the potential to reduce risk of future DV, increase housing stability, and improve their mental health situation through adequate counseling (Fisher & Stylianou, 2016).

The victims are allocated to shelters outside of their area of residence, in order to assure their safety, and the length of their stay is limited to 1 year, and can only be prolonged for safety reasons. This short-term stay limits the scope of action of the intervention team and technicians working in these shelters, who try to promote the empowerment and employability of these victims (Guerreiro, 2015).

2.2.2 Economic Level

There were four components considered for the potential savings: the unemployment subsidy, RSI subsidy, the family allowance and the cost of re-occurrence of DV, in case the victims return to the abusive household due to lack of means of subsistence. According to Guerreiro (2015), the status of victim determines the financial support of the state, namely through two vehicles: the RSI subsidy and the family allowance. Rendering the information provided by APAV, all of the victims living in their shelters receive family allowance. However, according to literature, this value is usually lower given that only 75% of women bring children to the shelter with them, and hence only this portion of victims receives the allowance. For the purpose of calculating the cost, this thesis considers that 75% of women bring children with them to the shelters (Guerreiro, 2015), which for a total of 823 victims, means that 617 bring the children to shelters. Furthermore, statistics show that there are 835 children living in shelters (Guerreiro, 2015), which means that victims who have children, have 1,4 children, on average. The family allowance averages 86,49 euros and is paid 13 times a year (twice in the month of September to compensate for beginning of school year

expenses), resulting in an annualized expense for participant of 1138,45 euros for monoparental families, 35% more than comparable households with both parents. Regarding the RSI subsidy, which has an average value of 188,68 euros per victim and 93,34 euros per child, the annualized expense calculated was of 1379,62 euros, considering a 20% add-on due to the monoparental situation. A third vehicle mentioned by Guerreiro (2015), the unemployment subsidy, is very common under these circumstances given the need for victims to relocate for safety reasons, and the inability of many employers to transfer them to other locations where the company operates. Considering a population aged between 30-39 years, which characterizes the shelters in Portugal, a woman who has 24 months of discounts to the Social Security receives a minimum unemployment subsidy of 428,9 euros. In a single parent household, this value increases by 10% and is paid for 420 days, corresponding to about 14 months. This translates into an expense of 3963 euros when assuming that this is a major source of income for victims, affecting about 60% of participants in the study.

Finally, according to Gordon et al. (2014), 49% of women in shelters are there for the second time, at least, which means that there is a high recurrence rate of DV. This may be due to the lack of economic independence or other possible psychological factors that may be attenuated if there is an increased autonomy through the delivery of this employability program. Hence, for the purpose of these calculations, a recurrence rate of 20% was assumed which has an associated cost of about 28 euros, given that Barros et al. (2008) calculated an estimated cost of intimate partner violence for the government of about 140 euros per year. Summing up all of these costs, there is a total of 6574,23 euros per person spent with women in unemployment or precarious labor situations by the government, related to lack of employment that could be avoided if the intervention model applied were successful.

3 Literature review on Social Impact Bonds

The global rise in inequality over the past decades has led to an escalation of social problems such as the upsurge in unemployment rates, the difficulty in accessing quality education and the increase in gender violence (Dabla-Norris et al, 2015). These are problems affecting not only developing countries, but developed countries alike, and as such, governments and communities have searched for solutions to address them.

In most countries, the third sector has risen as a potential vehicle to tackle these problems, by raising funds from untapped sources and delivering innovative solutions. In order to leverage these potential results, the third sector had to sought out new financing mechanisms, which often implied deploying methods of business and private capital to attract investors. Simultaneously, there has been increasing pressure on governments to find more effective solutions to address and resolve societal problems: the combination of these two needs created a market for an innovative financial instrument - Social Impact Bonds (SIBs).

A SIB is a contract between at least three different parties: the outcome payer (typically the government), the service provider, and the investors, in which social outcomes are defined and agreed upon and in return for the fulfillment of those outcomes, a financial return is paid (Appendix 4). The investor is responsible for supplying the capital to cover the implementation of the intervention, the service provider delivers the social outcomes intended to solve the problem being tackled and the outcome payer will repay investors, if the outcomes are successfully achieved (Wright et al, 2015).

The main goal of a SIB is to align the incentives between the parties in order to maximize the social outcome agreed upon. By defining outcomes instead of outputs and by providing objective metrics to verify the delivery of these results, the SIB serves as an effective financing mechanism specially when compared to alternatives such as grants or broader pay-for-success schemes, where the repayment to investors is not necessarily linked

to successful social outcomes. Through this financing mechanism, they manage to make organizations work to improve their performance management systems and hence, deliver better results to the communities (Bridges Ventures, "Choosing Social Impact Bonds", 2014).

The implementation of SIBs worldwide has changed the landscape of impact investment. With over 108 impact bonds implemented as of 2018, they managed to raise 392 million dollars in capital and impacted the lives of over 700.000 people in 22 countries, across the globe (Social Finance Database, 2018). The issue areas addressed range from workforce development, to criminal justice and include education and health, among others.

Prior to implementing the SIB, a feasibility study is required in order to assess whether this is the appropriate model to finance and solve, the problem one is trying to tackle. In order to conduct such a study, firstly it's important to define the social problem and analyze its root causes, as well as the target population; secondly, one has to understand what are the objectives of the project and who are the most suitable service providers to address this problem; thirdly is the creation of the value-for-money case, where the cost estimation is undertaken and the pricing strategy is defined. Only after taking these steps, can a conclusion be reached regarding the feasibility of using the SIB as the right financial mechanism to fund the project.

4 Intervention Model

APAV (Associação Portuguesa de Apoio à Vítima) is an IPSS (Private Social Solidarity Institute) that aims at promoting and contributing to inform, protect and support victims of abusive behaviours. Besides the moral, social, legal, psychologic and economic support, the organisation manages two shelters included in the National Network of shelters run by GAV (Victim Suport Office).

The shelters are a crucial element in the support of DV victims, as they provide safe housing to victims who do not possess a viable alternative for living arrangements. These

shelters can provide two types of assistance: temporary shelter up to 72 hours to women in emergency situations, where after that period the victims are reallocated to a centre that can give a better response to her particular situation; and shelters that offer a more prolonged stay, which can go up to a year, where a combination of resources is deployed to help the victims dealing with the repercussion of the DV abuses.

In 2014, there were 36 shelters in Portugal, corresponding to a total of 639 vacancies that could be occupied by both women and their children. In 2016, the first house dedicated to male victims was opened with 8 vacancies. However, for the purpose of this thesis, the focus will be women shelters with the majority of them between 30-39 years, with an average education between the 6th and 9th grade (Guerreiro, 2015). The shelters provide legal, social, and psychological counselling, as well as health support and help in training and search for jobs. According to APAV, despite these tools, the current model of interventions is unable to provide an effective response to the victims' needs, given that often, they still find themselves in unemployment or precarious labour situations, at the time they leave the shelters.

In order to tackle the problem, this thesis designs the implementation of a new intervention model that focuses on providing domestic violence victims with training that increases their employability, which can be delivered in a short-term period of under a year (corresponding to the victims' length of stay in the shelters) and is adapted to their lower educational level.

The intervention will require the participation of three distinct service providers contributing to different levels of this approach: Academia de Código will provide the training of the victims; Speak, delivering English classes to allow for the training provided in coding; and APAV complementing this approach with a close individual counselling of the victims focused on the domestic violence issues. Bearing this in mind, the process will

include 5 cohorts, each with 20 participant, with a process as follows: (1) the program taking place over the course of 6 months will include 2 months of intensive English classes for the victims to develop the basic knowledge of the language necessary to ensure the second stage of the program, code classes (2) the coding training in Java and Java Script taking place over 14-weeks of classes from 9 a.m to 6 p.m, every weekday, and finally (3) the intense counselling throughout the process to both help process the trauma and develop the necessary tools for a better entry into the job market.

4.1 Academia de Código

Academia de Código is a social enterprise that believes that coding is the new form of literacy, and hence delivers two strategies: Bootcamps, where code is taught to requalify unemployed people and reintroduce them in the job market; and Junior Code, a program targeted at young children in school, teaching them how to code. The first program, the Bootcamps, takes place over the course of 14 consecutive weeks and has had nine editions thus far. Academia de Código has worked with 350 participants up until, and has so far taught Java and Java Script to people with ages ranging from 18 to 52 years and educational levels from the 9th grade to PhD. The only requisite to pass the screening to enter the Bootcamp is knowledge of English. The Bootcamps have delivered a 96% employability rate with an average salary of 940 euros/per month for participants who finish the 14-weeks course.

4.2 SPEAK

Prior to the training in Java and JavaScript, there should be a complementary English program to ensure that all participants have a solid knowledge of the language, necessary for learning how to code. In order to deliver this training, SPEAK was chosen as the service provider, due to its innovative teaching approach.

Founded in 2014, SPEAK is a social tech start-up with a primary focus on connecting migrants and locals through language courses and an exchange of cultural values. Since SPEAK identifies tackling social exclusion as its main goal, providing English classes to reduce unemployment amongst domestic violence victims would constitute another solution to address this issue.

SPEAK functions through an online to offline model, with processes such as applications, payments, schedules and educational content are managed through the SPEAK website, while the classes take place in person.

4.3 APAV

The organization bridging the gap between service providers and the participants of this program, as well as the entity responsible for managing one of the shelters the intervention will be held in, is APAV. As noted earlier, APAV provides a number of services to women who stay in their shelters, with counselling being one of the tools provided to deal with the traumatic experiences suffered by the victims. Despite this option being provided, upon discussing the methodology of the intervention with a psychologist from the organization, it became evident that there is a lack of participation and interest in obtaining counselling from the victims' side. According to Bennet et al. (2004), counselling services in shelters provide women and their dependents with an important occasion to deal with the impact of the abuse. Studies have found that these supportive counselling services help improve the victims' self-esteem, assertiveness and coping abilities, and self-efficacy (Bennet et al, 2014), all of which are important features when transitioning from the shelter to a more independent and self-sustained life. Hence, allowing the victims to properly address the trauma is an important step in moving forward and may positively affect their entrance in the job market.

Since it is not possible to provide mandatory therapy for victims, and in order to ensure the success of the intervention, an important element would be the creation of group counselling sessions for the women taking part in the program, to foment the participation of victims in this type of psychological therapy.

4.4 Benchmark with Juvat gemeinnützige Gesellschaft mbH's SIB in Austria

The first Social Impact Bond ran in Austria aimed at empowering woman who had been affected by violence, from an economic and social perspective. The pilot led by the Austrian Federal Ministry of Labor, Social Affairs and Consumer Protection and Juvat gemeinnützige Gesellschaft mbH, a part of Benckiser Stiftung. The objective of the project was to offer financial independence to women affected by domestic violence by placing them in long-term jobs that secure them a living wage. The two service providers contracted to deliver this implementation were the Center for Protection Against Violence in Upper Austria and the Women's Shelter Linz, where they focus on the combination of individual counselling concerning the domestic violence issues (done by the "Gewaltschutzzentrum" and the "Frauenhaus") and of job orientated trainings to bring the women back into the job market, provided by specialized organizations. The focus group for the project are working age women who contacted the shelter of Linz or the Center for Protection against Domestic Violence victims in a period of 24 months prior to starting the project, and were not receiving the living wage or were at risk of losing their jobs

According to Benckiser Stiftung, the combination of the one-on-one counselling and coaching, as well as the group's offers for job application training were determinant factors in ensuring the success of the SIB outcomes, results that are yet to be made public.

By adapting these elements to the intervention model being developed in coordination with APAV, SPEAK and Academia de Código, innovation will be brought on board and

adapted to the context of the Portuguese reality, and the specific challenge of the shelters being targeted.

5 Developing a SIB Business Case

For the purpose of testing the new intervention model previously described, a pilot will be implemented in 5 shelters in the North of Portugal, one of which is ran by APAV, in Vila Real. Throughout a process with a duration of 3 years (36 months), 5 cohorts will be led with 20 participants each, with every cohort running for 6 months, including: 2 months of English classes, 14 weeks of intensive code classes and counseling throughout. The impact measurement will run during the whole process, with English assessments at the end of SPEAK's classes and employability measurements after the end of the course (Appendix 1)

The value-for-money case, described in this section, consists of developing a financial model on Excel, portraying how an investment made under the SIB format for this new intervention could provide attractive savings for the government and a solid return for investors.

5.1 Intervention Costs

For the purpose of evaluating intervention costs two scenarios were considered, resulting into two different financial outputs with different payment timings. The first scenario includes in the initial investor requirement, the cost of setting up the Bootcamp for Academia de Código, which is approximately 15.000 euros, according to the company. To this value, there is an underlining assumption that the premises for the program will be provided by one of the cities where the shelters are located, given that both in Fundão and Terceira, Academia de Código managed to establish these partnerships to run the Bootcamps. There are also costs associated with leasing the necessary computers, which according to Academia de Código would total 40.000 euros for the five Bootcamps in this pilot.

If investors would cover this initial cost, Academia de Código would dilute the investment throughout the program reducing the cost per participant by 550 euros, which would lower the price of the classes to 4.450 euros per participant.

Other costs include: Speak classes, at 25 euros per participant, per month; an APAV technician to engage in counseling with the victims and coordinate the program, adding a 40 euros expense per participant per month; and the transportation for women in shelters to go to the installations where the English and Coding classes would take place. This transportation is assumed to result from usage of a bus from one of the cities, and investors would cover only the fuel expenses of about 500 euros, per month (about 25 euros per participant).

In the second scenario, all costs remained the same, except for the cost with Academia de Código Bootcamps, given that under this set-up, investors would not cover the initial costs resulting in a cost per Bootcamp, per participant, of 5000 euros. (Appendix 1 and 2)

5.2 Outcome Metrics

Two outcome metrics were established for the purpose of evaluating the impact of the intervention model: the employability rate of participants 3 months after the end of the program and the improved language skills after the 2 months of intensive English classes.

In order to determine the revenues that can arise from the fulfillment of established outcome metrics, the potential government savings of 6574,23 euros per person, explained previously under the economic level consequences, are important to justify the pricing of the metrics. Hence, for every woman who finds employment in this area of computer development, there is a revenue for investors of 5000 euros and for every successful completion of the SPEAK program, there is a tariff of 1500 euros. This represents a saving of 75 euros per participant for the delivery of the project and a total potential saving for the

government of 5.410.590 euros per year when considering all of the victims living in shelters, in Portugal.

5.3 Investment Structure

The choice of investment structure will highly determine the return for investors, as it will be shown in the scenario analysis that follows. If investors incur in a higher initial cost to set up the program, the subsequent cost of the Bootcamps will be lower, creating a higher cash balance throughout the period of the intervention and allowing for a more systematic repayment to investors. In the second case, with higher delivery costs, investors will receive fewer repayments throughout the intervention period and a higher repayment at the end. Considering the time-value of money, it is understandable that the frequent payments and a lower final repayment represent a higher IRR than a higher repayment at the end of the process and less frequent payments throughout.

5.3.1 Working Capital Contingency and Reserve Level

The two different scenarios result in different values of working capital contingencies and reserve levels. The working capital contingency refers to a fund allocated to contingency purposes and aims at fulfilling needs that may arise from an unpredictable event, for a period of 3 months, with a value of € 44 083,33 for the investment structure without the set-up cost and of € 39 500,00 with the set-up cost. This value was obtained by dividing the total cost of the project by its duration, times the period of 3 months. The reserve level is the point at which investors begin receiving back their cash, in the first case this happens at € 88 166,67 and in the second case at € 79 000,00. The value appears by dividing the total cost of the project by its duration and the six-month reserve level. (Appendix 2)

5.4 Scenario Analysis

For the purpose of this evaluation, six scenarios were considered: three under each investment structure, each with a worst case, a base case and a best-case scenario. Overall,

the three scenarios under the investment structure that involves the investors covering the initial costs, have a better IRR when matched with their comparable scenarios with the absence of the initial investment. This difference is justified, as previously explained, by the time-value of money and delivery of more frequent payments when the set-up costs are covered by investors.

The three different scenarios under each investment structure depend on the probability of success of each of the outcome metrics. in the best-case scenario, the employability outcome is the average of the one delivered by Academia de Código in the previous 15 Bootcamps realized thus far, which is 96%. This is also the probability used in the base case scenario. In the best case, 100% of participants finish the English classes, whereas in the base case only 90% finish them. Lowering the success of the outcome metric of English courses by 10% was chosen based on the sensitivity analysis (Appendix 5). This lower value means that less participants are also able to enter the coding training, as they have to finish the English classes in order to qualify. Finally, for the worst-case scenario, the probability of finishing the English training is 80% and the probability of being employed is of 80%, for the ones who finish the English course. Under the investment structure without the initial setup cost, the IRRs are respectively: 8%, 0% and -16%, for the best, base and worst-case scenarios. However, for the second investment structure, the IRRs are 15%, 7% and -9%. The IRRs imply a discount rate of 5%, given that according to Liebman (2011) this is the appropriate value for a social impact evaluation.

Given the substantial differences between the results in the IRR deriving from the two different investment structures, if investors decide to pursue this endeavor, they should always choose the intervention with lower cost of Bootcamps and higher initial cost. Furthermore, the financial model forecasts are dependent on revenue and cost projections based on calculated cost savings from literature, which may not portray the Portuguese

reality, as it is nowadays.

All of these scenarios should be interpreted as probabilities of successful outcomes, and bearing in mind the limitations provided in the following section. (Appendix 3)

6 Limitations

There are some crucial limitations to overcome prior to implementing this project. These limitations are both related to the service providers and target population, as well as the calculations performed in this thesis.

6.1 Incentives to change

Upon meeting with APAV twice to discuss the viability of this project, as well as to gather data to build the new intervention model, the organization suggested to the author an intervention that would consist of a training performed by companies that would increase the women's employability and would result in them being hired by the companies providing such training. Since in the context of Portuguese society, where the structural unemployment rate is still relatively high when compared to the rest of the OCDE countries (OCDE, 2017), and salaries are still lower than in the rest of Western Europe, it would be difficult to conduct such an intervention. Based on the idea of using employability training to avoid the trap of precarious labor, the code classes seemed to fulfill the requirements necessary for the intervention's success. However, APAV considered this model to be very disruptive and feared that the victims would not engage in a program as specific and demanding as coding, since it may not align with their personal interests. Furthermore, there was a fear that given the level of subsidies many victims receive, there would not be enough incentives for women to get involved in a program that require such commitment, when they could continue to receive the government subsidies instead, for a small differential.

The lack of incentives on the side of women to commit to the program and the skepticism on the side of APAV may play a determinant role in the implementation of the program. This limitation may be mitigated by the demanding selection process of Academia de Código that only selects motivated participants in order to maximize their chance of success.

6.2 Calculation of Savings

It was often difficult to calculate cost savings using solely the results provided by the collection of data in the shelter ran by APAV, in Vila Real. When there was no information available, namely regarding the RSI subsidy distribution that due to bureaucratic reasons could not be received by victims in this particular shelter, the calculations were based on information from literature, both national and international, that may not be the most accurate to describe the current context. Given that the results are highly dependent on the cost projections and inherent savings for the government, the resulting IRRs should be examined with this limitation in mind.

In the calculation of savings, the author also considered the unwillingness to pay the defined tariffs, if the government considers the savings of the project to be too low. In order to overcome said limitation, further research should also include a scenario analysis that tests different tariffs for each of the determined outcomes.

6.3 Further Research

For the purpose of developing and implementing the new intervention model, there should be further research conducted on the side of potential service providers, namely on the side of shelter management in order to assure the maximum success of the project. Another important step would be conducting a more in-depth research of subsidies received in shelters nation-wide, in order to have a more accurate measurement of potential savings.

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8 Appendix

8.1 Appendix 1: Timeline for the intervention

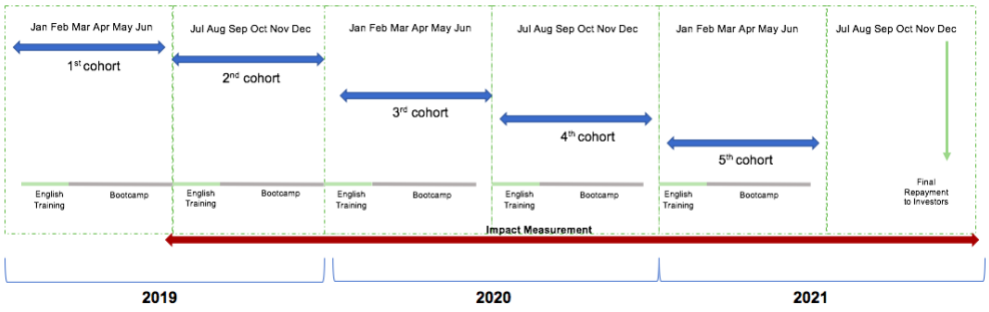

Figure 2- Timeline for the intervention

8.2 Appendix 2: Inputs

INTERVENTION MODEL INPUTS	
Number of beneficiaries	100
Per cohort	20
Time to outcome for employability	3 months
Time to outcome for language	2 months
Length of the project (months)	36 months
Number of cohorts	5

Figure 3- intervention model inputs

COST INPUTS	
SUPPORT SERVICES	**Per client**
ACADEMIA DE CÓDIGO	
Bootcamp per participant without set up[1]	€ 5 000,00
Bootcamp set up[2]	€ 15 000,00
Computers[2]	€ 40 000,00
Bootcamp per participant with set up cost[1]	€ 4 450,00
SPEAK	
Speak per participant/per month	€ 25,00
APAV	
Counseling/per month[3]	€ 40,00
Transportation/per month[4]	€ 500,00
Total annual costs	€ 64 515,00

Figure 4- cost inputs

[1] When analyzing the Bootcamp costs, Academia de Código provided two scenarios: if they incurred in the expense of setting up the cost of the Bootcamp themselves, the cost of the program would be the one that is charted; if the cost was covered by investors, the expense would be diluted in the cost of the program per participant, lowering it by 650 euros;
[2] Value provided by Academia de Código, covering set up installations in a facility provided by the town of Vila Real, as usually, Academia de Código partners with the city and uses their installations to set up the programs
[3] Counseling corresponds to hiring one technician to coordinate special counseling for the 20 participants. The technician earns 800 euros per month, which divided by the participants in the cohort represents a cost for participant of 40 euros per month;
[4] Transportation is required to transport the victims to the location where Speak classes and the Bootcamps would take place, this value includes only the fuel as it is assumed that a partnership with the town of Vila Real would be established and a bus provided by the city would be used

Under the scenario with set up costs:

FINANCIAL INPUTS II	**Scenario I**	**Scenario II**
Working capital contingency (months)	3 months	3 months
Working capital contingency ($C)	€ 44 083,33	€ 39 500,00
Cash Flow Delay	3 months	3 months
Reserve level which begins cash return to investors (6 Months)	€ 88 166,67	€ 79 000,00
Discount Rate[1]	5%[1]	5%[1]

Figure 5- financial inputs for the scenario with setup costs (I) and without setup cost (II)

[1]According to Liebman (2011), the discount rates of 3 to 5 percent are typically used in social impact evaluations. By taking a conservative approach, the value of 5% was chosen

8.3 Appendix 3: Scenario Analysis

OUTPUTS	***BEST CASE SCENARIO***	***BASE CASE SCENARIO***	***WORST CASE SCENARIO***
Maximum Contract Value	**€630 000,00**	**€567 000,00**	**€440 000,00**
Project costs	**€529 000,00**	**€529 000,00**	**€529 000,00**
Delivery Cost	€529 000,00	**€529 000,00**	**€529 000,00**
Investor Requirement	-€224 883,33	-€227 883,33	-€284 283,33
Project surplus	€101 000,00	€38 000,00	-€89 000,00
IRR of project without Setup Cost	**8,39%**	**0,28%**	**-16,40%**
#employed women	**96**	**86**	**64**

Figure 6- outputs for the scenario without setup cost

OUTPUTS	***BEST CASE SCENARIO***	***BASE CASE SCENARIO***	***WORST CASE SCENARIO***
Maximum Contract Value	**€630 000,00**	**€567 000,00**	**€440 000,00**
Project costs	**€474 000,00**	**474 000,00**	**474 000,00**
Delivery Cost	€474 000,00	€474 000,00	€474 000,00
Investor Requirement	-€253 300,00	-€256 300,00	-€279 700,00
Project surplus	€156 000,00	€93 000,00	-€34 000,00
IRR of project with Setup Cost	**15,35%**	**6,86%**	**-9,26%**
#employed women	**96**	**86**	**64**

Figure 7-output for the scenario with setup cost

8.4 Appendix 4: Impact Bond Mechanisms

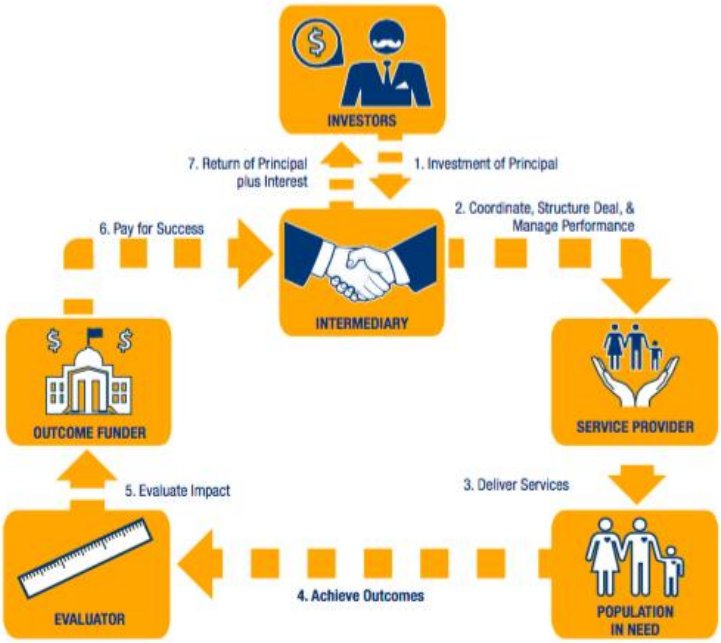

Figure 8- Social Impact Bond Diagram, source: Gustafsson-Wright, Emily, Sophie Gardiner, and Vidya Putcha. The potential and limitations of impact bonds: lessons from the first five years of experience worldwide. Global Economy and Development at Brookings, 2015.

8.5 Appendix 5: Sensitivity Analysis

	ENGLISH TRAINING											
	8,39%	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
EMPLOYABILITY	100%	11%	7%	3%	-2%	-6%	-11%	-14%	-18%	-22%	-25%	-28%
	95%	**8%**	4%	**0%**	-5%	-9%	-13%	-17%	-20%	-23%	-26%	-29%
	90%	5%	1%	-3%	-8%	-12%	-15%	-19%	-22%	-25%	-28%	-31%
	85%	1%	-3%	-7%	-10%	-14%	-17%	-21%	-24%	-26%	-29%	-32%
	80%	-2%	-6%	-10%	-13%	**-16%**	-19%	-22%	-25%	-28%	-30%	-33%
	75%	-6%	-9%	-13%	-16%	-19%	-22%	-24%	-27%	-29%	-32%	-34%
	70%	-9%	-12%	-15%	-18%	-21%	-24%	-26%	-29%	-31%	-33%	-35%
	65%	-12%	-15%	-18%	-21%	-23%	-26%	-28%	-30%	-32%	-34%	-36%
	60%	-15%	-18%	-21%	-23%	-25%	-28%	-30%	-32%	-34%	-36%	-38%
	55%	-18%	-21%	-23%	-25%	-27%	-29%	-31%	-33%	-35%	-37%	-39%
	50%	-21%	-24%	-26%	-27%	-29%	-31%	-33%	-35%	-37%	-38%	-40%

Figure 9- sensitivity analysis: IRR dependency on success of outcome metrics under the investment structure without setup costs

	ENGLISH TRAINING											
EMPLOYABILITY	15%	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
	100%	18%	17%	16%	15%	14%	13%	12%	11%	10%	9%	8%
	95%	**15%**	14%	13%	12%	11%	9%	8%	7%	6%	5%	4%
	90%	12%	10%	9%	8%	7%	6%	5%	4%	3%	2%	1%
	85%	8%	**7%**	6%	5%	4%	3%	2%	1%	0%	-1%	-2%
	80%	5%	4%	3%	2%	1%	0%	-1%	-2%	-3%	-4%	-5%
	75%	2%	1%	0%	-1%	-2%	-3%	-4%	-5%	-6%	-7%	-8%
	70%	-2%	-3%	-4%	-5%	-6%	-7%	-7%	-8%	-9%	-10%	-11%
	65%	-5%	-6%	-7%	-8%	**-9%**	-10%	-10%	-11%	-12%	-13%	-14%
	60%	-8%	-9%	-10%	-11%	-12%	-13%	-13%	-14%	-15%	-16%	-16%
	55%	-11%	-12%	-13%	-14%	-15%	-15%	-16%	-17%	-18%	-18%	-19%
	50%	-14%	-15%	-16%	-17%	-17%	-18%	-19%	-19%	-20%	-21%	-21%

Figure 10- sensitivity analysis: IRR dependency on success of outcome metrics under the investment structure with setup costs